

APR. 25. 2005 4:49PM

+1-212-319-5101 customer 01933

APR 25 2005 NO. 4450 ISO (P. 1/8)

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| | | |
|---|--|---|
| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER 05021/HG |
| INTERNATIONAL APPLICATION NO. PCT/JP2003/011881 | | U.S. APPLICATION NO. (If known, see 37 CFR 1.6) 10/522,698 |
| INTERNATIONAL FILING DATE 18 September 2003 | | PRIORITY DATE CLAIMED 20 September 2002 |
| TITLE OF INVENTION WAVELENGTH CONVERSION ELEMENT | | |
| APPLICANT(S) FOR DO/EO/US Sunao KURIMURA; and Masaki HARADA | | |

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

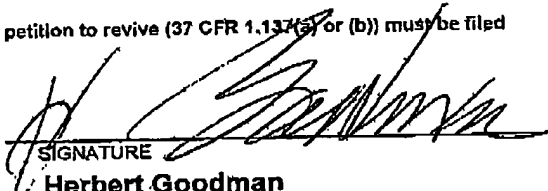
- ☐ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
- ☒ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
- ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
- ☐ The US has been elected (Article 31).
- ☐ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - ☐ is attached hereto (required only if not communicated by the International Bureau).
 - ☐ has been communicated by the International Bureau.
 - ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
- ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - ☐ is attached hereto.
 - ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
- ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - ☐ are attached hereto (required only if not communicated by the International Bureau).
 - ☐ have been communicated by the International Bureau.
 - ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - ☐ have not been made and will not be made.
- ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
- ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
- ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

- ☒ An Information Disclosure Statement under 37 CFR 1.87 and 1.98.
- ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included:
- ☐ A preliminary amendment.
- ☐ An Application Data Sheet under 37 CFR 1.76.
- ☐ A substitute specification.
- ☐ A power of attorney and/or change of address letter.
- ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821-1.825.
- ☐ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
- ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
- ☐ Other items or information:

CERTIFICATE OF FACSIMILE TRANSMISSION TO NO. 1-703-872-9306
I hereby certify this paper is being facsimile transmitted to the Patents and Trademarks Office on the date noted below.

Attorney: HERBERT GOODMAN
dated: April 25, 2005

| | | | | | |
|---|--------------|---|------------|---|----------|
| U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/522,698 | | INTERNATIONAL APPLICATION NO. PCT/JP2003/011881 | | ATTORNEY'S DOCKET NUMBER 05021/HG | |
| 21. The following fees are submitted: | | | | | |
| <input type="checkbox"/> a) Basic national fee..... | | | | \$ | 300.00 |
| <input type="checkbox"/> b) Examination fee..... | | | | \$ | 200.00 |
| <input type="checkbox"/> c) Search fee..... | | | | \$ | 500.00 |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ | 1000.00 |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250.00 | \$ | .00 |
| Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(e)). | | | | \$ | .00 |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | \$ | |
| Total claims | - 20 = | 0 | x \$50.00 | \$ | .00 |
| Independent claims | - 3 = | 0 | x \$200.00 | \$ | .00 |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | | + | \$360.00 |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ | .00 |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2. | | | | \$ | .00 |
| SUBTOTAL = | | | | \$ | .00 |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)). | | | | + | \$ |
| TOTAL NATIONAL FEE = | | | | \$ | .00 |
| Fee for recording the enforced assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, §.31). \$40.00 per property. | | | | + | \$ |
| TOTAL FEES ENCLOSED = | | | | \$ | .00 |
| | | | | Amount to be refunded: | \$.00 |
| | | | | Amount to be charged: | \$.00 |
| <p>a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>06-1378</u>. A duplicate copy of this sheet is enclosed.</p> <p>d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.</p> | | | | | |
| NOTE: Where an appropriate time limit under 37 CFR 1.498 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status. | | | | | |
| SEND ALL CORRESPONDENCE TO: | | | | | |
| CUSTOMER NO. 01933 | | | | | |
| Herbert Goodman Frishauf, Holtz, Goodman & Chick P.C. 767 Third Avenue 25 th Floor New York NY 10017-2023 | | | | | |
|  SIGNATURE Herbert Goodman NAME 17,081 REGISTRATION NUMBER | | | | | |

**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

Appl. No. : 10/522,698
Applicant : Sunao KURIMURA et al
Filed : March 11, 2005
For : WAVELENGTH CONVERSION
ELEMENT
Docket No. : 05021/MJC
Customer No.: 01933

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

S I R :

Submitted herewith is a copy of the English language International Search Report issued in International Application No. PCT/JP2003/011881, on which the present U.S. national phase application is based.

Copies of the references cited in the International Search Report should have been supplied by WIPO to the USPTO. Therefore, copies of the cited references in the International Search Report should be on file in the United States, in accordance with current practice.

Attached hereto are Forms PTO/SB/08A and PTO/SB/08B listing the particulars of the references cited in the International Search Report. As mentioned above, copies of the references should already be in the U.S. file, supplied by WIPO.

CERTIFICATE OF FACSIMILE
TRANSMISSION
TO NO. 1-703-872-9306

RECEIVED
CENTRAL FAX CENTER

APR 25 2005

TOTAL PAGES: 8
I hereby certify this
paper is being facsimile
transmitted to the
Patents and Trademark Office
on the date noted below.


Attorney: HERBERT GOODMAN

Dated: April 25, 2005

In the event that this Paper
is late filed, and the
necessary petition for
extension of time is not filed
concurrently herewith, please
consider this as a Petition
for the requisite extension of
time, and to the extent not
tendered by check attached
hereto, authorization to
charge the extension fee, or
any other fee required in
connection with this Paper,
to Account No. 06-1378.

It is respectfully requested that the Examiner return an initialed copy of the attached Forms PTO/SB/08A and PTO/SB/08B to confirm that the publications supplied by WIPO and listed therein have been considered and made of record.

Respectfully submitted,


HERBERT GOODMAN
Reg. No. 17,081

Frishauf, Holtz, Goodman
& Chick, P.C.
767 Third Ave., 25th floor
New York, NY 10017-2023
Telephone: (212) 319-4900
Facsimile: (212) 319-5101

RG/lpv

Enc: Forms PTO/SB/08A and PTO/SB/08B; International Search
Report

Please type a plus sign inside this box →

+

PTO/SB/08A (08-00)

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

| | | | | | | | | | | | | |
|---|--------------------------|---------------------------|------------------------------|---------------------------|--|----------------------------------|--------------------------------|--------------------------------|---------------------|---------------------|--|----------------|
| Substitute for Form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | | | Application Number | | 10/522,698 | | | | | | |
| | | | | Filing Date | | March 11, 2005 | | | | | | |
| | | | | First Named Inventor | | Sunao KURIMURA et al | | | | | | |
| | | | | Group Art Unit | | | | | | | | |
| | | | | Examiner Name | | | | | | | | |
| Sheet | | 1 | | of | | 2 | | Attorney Docket Number | | 05021/HQ | | |
| U.S. PATENT DOCUMENTS | | | | | | | | | | | | |
| Exam. Initials* | Cite No. ¹ | Document Number | | Kind Code ² | Name of Patentee or Applicant | | Publication Date MM-DD-YYYY | | Relevant Portion | | | |
| | | 5,382,334 2001/0055453 | | | PIONEER ELEC. CORP MATSUSHITA ELEC. | | 01-17-1995 12-27-2001 | | | | | |
| FOREIGN PATENT DOCUMENTS | | | | | | | | | | | | |
| Exam. Initials* | Cite No. ¹ | Off. Code ³ | Document Number ⁴ | | Kind Code ² | Name of Patentee or Applicant | | Publication Date MM-DD-YYYY | | Relevant Portion | | T ⁵ |
| | | JP | 11-212128 | | A | MITSUBISHI MAT. | | 08-06-1999 | | | | |
| | | JP | 2002-122898 | | A | NIKON CORP. | | 04-26-2002 | | | | |
| | | JP | 03-237437 | | A | ASAHI GLASS CO. | | 10-23-1991 | | | | |
| Examiner Signature | | | | | | | Date Considered | | | | | |

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Place a check here if English translation is attached.

DATE MAILED: April 25, 2005

| | | | | | | | |
|---|--------------------------|---|---|------------------------|--|----------------------|----------------|
| Substitute for Form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT | | | | Application Number | | 10/522,698 | |
| | | | | Filing Date | | March 11, 2005 | |
| | | | | First Named Inventor | | Sunao KURIMURA et al | |
| | | | | Group Art Unit | | | |
| | | | | Examiner Name | | | |
| Sheet | 2 | of | 2 | Attorney Docket Number | | 05021/HG | |
| OTHER DOCUMENTS - NON-PATENT LITERATURE DOCUMENTS | | | | | | | |
| Examiner Initials ¹ | Cite No. ¹ | Include name of author (in CAPITAL LETTERS), title of article, title of item, date, page(s), volume-issue number(s), publisher, city and/or country where published | | | | | T ² |
| | | Tadashi KURIMURA et al, "Shigai Hacho Henkan o Mezashita Giji Iso Seigo Suisho", Oyo butsuri, Vol. 69, No. 5, pp. 548-552 (2000). L. BABSAIL et al, "Second-harmonic generation in ion-implanted quartz planar waveguides, Appl. Phys. Lett., Vol. 59, No. 4, pp. 384-386 (22 July 1991). | | | | | |
| Examiner Signature | | | | | | Date Considered | |

¹ EXAMINER: Initial if document considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

² Unique citation designation number. * Place a check here if English translation is attached.

DATE MAILED: April 25, 2005

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/11881

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ G02F1/377

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ G02F1/37

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

| | | | |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho | 1922-1996 | Toroku Jitsuyo Shinan Koho | 1994-2003 |
| Kokai Jitsuyo Shinan Koho | 1971-2003 | Jitsuyo Shinan Toroku Koho | 1996-2003 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

JICST, INSPEC, USPTO, Web Patent Database

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | JP 11-212128 A (Mitsubishi Materials Corp.), 06 August, 1999 (06.08.99), (Family: none) | 1-5 |
| Y | JP 2002-122898 A (Nikon Corp.), 26 April, 2002 (26.04.02), (Family: none) | 1-5 |
| Y | Tadashi KURIMURA et al., "Shigai Hacho Henkan o Mezashita Giji Iso Seigo Suisho", Oyo butsuri, Vol.69, No.5, 2000, pages 548 to 552 | 1-5 |
| Y | JP 03-237437 A (Asahi Glass Co., Ltd.), 23 October, 1991 (23.10.91), (Family: none) | 2 |

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
14 November, 2003 (14.11.03)Date of mailing of the international search report
02 December, 2003 (02.12.03)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/11881

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y | Babsail, L. et al., Second-harmonic generation in ion-implanted quartz planar waveguides, Appl. Phys.Lett., Vol.59, No.4, 22 July, 1991 (22.07.91), pages 384 to 386 | 2 |
| Y | US 5382334 A (PIONEER ELECTRONIC CORP.), 17 January, 1995 (17.01.95), Column 6, lines 26 to 38 & JP 06-186603 A | 3, 4, 5 |
| Y | US 2001/0055453 A1 (MATSUSHITA ELECTRIC Industrial Co., Ltd., NGK INSULATORS Ltd.), 27 December, 2001 (27.12.01), & JP 2002-250949 A | 3, 5 |